

REMARKS

Claims 1-5 are currently pending in the present application. No claim has been amended in the present response.

Rejections under 35 USC § 103

Claims 1-5 stand rejected under 35 U.S.C. § 103 as being unpatentable over USP 4,929,564 to Kainosho et al. (hereinafter “Kainosho”) in view of US 2003/0077870 to Yoon et al. (hereinafter “Yoon”). Applicants respectfully traverse.

The Examiner states in the Office Action, at page 3, second paragraph, that Yoon “teaches growing the epitaxial layer.” However, Applicants wish to point out to the Examiner that Yoon actually states as follows at paragraph [0016]:

[0016] As shown in the figure, the laminated structure is formed by alternately laminating a first and a second sub-collector InGaAs layers(102, 106)/a base InGaAs layer(110)/an emitter InGaAs layer(116) and an etch stop InP layer(104)/a collector InP layer(108)/a first and a second emitter InP layers(112,114) on an Fe-doped InP substrate(100) by using an epitaxy method such as a metalorganic chemical vapor deposition (MOCVD) or a molecular beam epitaxy (MBE).

Accordingly, neither this paragraph nor any other paragraph in the Yoon disclosure teaches improved electrical properties by growing an epitaxial layer.

Furthermore, Applicants wish to point out that in accordance with *KSR Int'l Co. v. Teleflex, Inc.*, 127 S. Ct. 1727 (2007), in formulating a rejection under 35 U.S.C. § 103(a) based upon a combination of prior art elements, it remains necessary to identify the reason why a person of ordinary skill in the art would have combined the prior art elements in the manner claimed. The Examiner bears the initial burden of presenting a *prima facie* case of obviousness. *In re Oetiker*, 977 F.2d 1443, 1445, 24 USPQ2d 1443, 1444 (Fed. Cir. 1992). “[R]ejections on obviousness grounds cannot be sustained by mere conclusory statements; instead, there must be

some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” *In re Kahn*, 441 F.3d 977, 988, 78 USPQ2d 1329, 1336, quoted with approval in *KSR Int’l Co. v. Teleflex Inc.*, 127 S. Ct. 1727, 1741, 82 USPQ2d 1385, 1396 (2007).

Here, the Examiner has not set forth sufficient reasons why a person of ordinary skill in the art would have combined Kainosho and Yoon to arrive at the present invention.

Moreover, in the present invention, the set temperature changes depending on the resistivity of the substrate at a room temperature in order to adjust the actual substrate temperature to the predetermined temperature during the epitaxial layer growth.

On the other hand, in Kainosho, the variation in the resistivity of the substrate is suppressed by the heat treatment. Therefore, the object of the present invention is different from that of Kainosho, and further the actual process of the present invention is different from that of Kainosho.

Accordingly, Applicants respectfully submit that the Examiner has not established that the present invention is obvious, within the meaning of 35 U.S.C. § 103(a). Applicants respectfully request reconsideration and withdrawal of the outstanding rejection. Moreover, in view of the foregoing, Applicants believe the pending application is in condition for allowance. A Notice of Allowance is earnestly solicited.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Monique T. Cole, Reg. No. 60,154 at the telephone number of the undersigned below, to conduct an interview in an effort to expedite prosecution in connection with the present application.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37.C.F.R. §§1.16 or 1.147; particularly, extension of time fees.

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Respectfully submitted,

By  #48,501

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